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ABSTRACT

This paper examines an intentional learning theory by identifying the influential factors that foster individual learning differences. A psychological model is included that presents four unique learning orientations, built on a foundation of causal beliefs. This model of intentional learning assimilates the combined influence of conative, cognitive, affective, and social processes on learning performance. Intentional learning is described as a highly achievement motivated, agentive approach that learners use to empower themselves. Intentional learning is seen as based on a conception that embraces the transformative power of learning, and supposes an environment in which learners see intent, ability, and effort as critical determinants of achievement. The intentional learner uses knowledge to transform, elaborate, and give knowledge meaning. The intentional learner is an aggressive and expert learner who sets and achieves short and long-term goals, and whose locus of control is internal. (Contains 19 references.) (JLS)

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ED 408 260

Transformation: A Description of Intentional Learning

Abstract: This paper examines an intentional learning theory by identifying the influential factors that foster individual learning differences. Included is a psychological model that presents four unique learning orientations built on a foundation of causal beliefs. This intentional learning model assimilates the combined influence of conative, cognitive, affective, and social processes on learning performance. The author describes intentional learning as a highly achievement motivated, agentive approach that learners use to empower themselves. Based on a conception that embraces the transformative power of learning, intentional learners see intent, ability, and effort as critical determinants of achievement.

Bereiter and Scardamalia (1989) defined intentional learning as "cognitive processes that have learning as a goal rather than an incidental outcome" (p. 363). This learning occurs when individuals are actively and willfully using strategies to achieve learning goals beyond the requirements of the task. These researchers suggest that intentional learning depends on both situational and intrinsic factors—"on what the situation affords in goal-attainment opportunities and on what the student's mental resources are for attaining these goals" (p. 363). This research also shows the importance of learning goals and whether or not these goals are oriented towards knowledge construction. In such a process, the new knowledge becomes part of an existing knowledge base possessed by the learner. If the new knowledge is compatible with existing knowledge the transition occurs easily. Sometimes learning is incompatible with existing knowledge so an adjustment may occur to assimilate new knowledge. In short, this view posits that intentional learning can be anticipated and self-managed from the beginning and continued through subsequent learning stages.

Scardamalia and Bereiter (1993/1994) further define intentional learning as motivated learners who are actively and willfully trying to achieve learning in an environment that supports learning. In other words, intentional learners in supportive environments have high levels of self-efficacy and use learning as a primary transformative force (Bereiter & Scardamalia, 1989). In recent years, Bereiter and Scardamalia have worked with teams, made up of students, educators, and researchers, to establish a project called Computer-Supported Intentional Learning Environment (CSILE) in classrooms throughout North America. CSILE provides an intentional learning environment where students use opportunities to engage in knowledge-transforming activities. CSILE, an educational knowledge-building media system, uses a common knowledge database that students update and maintain. This database represents the combined knowledge of a community of intentional learners. These learners are aware of their own cognitive development and actively use self-directed strategies to construct new knowledge in the intentional learning environment.

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Scardamalia and Bereiter (1989) offer an interesting "metaknowledge" model, as shown in Table 1, that describes some cognitive characteristics of intentional learning. The authors define metaknowledge as knowledge about knowledge. This model presents information that can help intentional learners use skills to give knowledge meaning.

	Metaknowledge Needs for Intentional Learning
1	**A Problem-Solving Framework for Approaching Learning** Learning should be approached within an executive structure that makes it possible to apply effort effectively, insofar as it is needed to pursue a learning goal, to contend with obstacles, and to allocate mental resources appropriately.
2	**Awareness of the Functional Potential of Knowledge** Awareness that knowledge can enable the acquisition of other knowledge, can bring about the revision of other knowledge, and can be conjoined in various ways to play various critical roles for intentional learning.
3	**Strategies for Identifying Deficits in Knowledge** When learning is approached within a problem-solving framework, identifying what one does not know becomes a variety of problem-finding (Getzels, 1979). As such, it is an active, strategically guided-process and not simply a matter of spontaneous curiosity.

Table 1 Bereiter and Scardamalia's Model for Metaknowledge Needs (abridged version)

Most of the applied research relevant to intentional learning continues to highlight cognitive processes such as learning styles, skills, and strategies. In contrast to this approach, Snow (1979) argued that an understanding of learning requires "a whole person view that integrates cognitive, conative, and affective aspects." He further suggested that these key aspects are "not isolated provinces." Snow maintained that these critical aspects interact in complex ways to influence and support individual performance and cannot be ignored or discarded in the analysis of learning.

Weiner and his associates (Weiner, 1972; Weiner, Frieze, Kukla, Reed, Rest, & Rosenbaum, 1971) reviewed evidence of how factors, other than a cognitive process, may affect the student's learning performance. The studies examined the influence of causal learning beliefs about ability and effort on the actions of both teachers and learners. They described the important effects of causal attributions on intentional achievement and causes for success and failure. Several of these studies demonstrated how learners, high in achievement motivation attributed success to ability and intensive effort and failure to lack of effort. In comparison, learners, which are low in achievement motivation, generally attributed success or failure to ability not effort. Consequently Weiner suggested that learners "high in achievement motivation feel more pride in successful accomplishment" and will strive to continue this practice. "That is, the causal attribution of self-responsibility for success, which augments positive achievement affect (pride) for success, is postulated to mediate the observed relationship between achievement-related needs and volitional achievement striving." Hence, Weiner hypothesized that achievement motivation, striving, and activity would improve (grow) with the "growth of causal attributions to effort

(intention)." Weiner suggests that significant learning and performance differences exist between individuals high and low in achievement needs. He describes some of these differences as achievement-related responses: free-choice behavior, persistence of behavior, intensity of performance, and risk performance. "Persons high in achievement needs work with greater intensity, persist longer in the face of failure, and choose more tasks of intermediate difficulty than persons low in achievement needs" (p. 208).

A Model for Intentional Learning

An ongoing investigation about the psychological and developmental role played by an important set of everyday influential factors yielded an expanded definition of intentional learning. The author describes intentional learning as a highly motivated, agentive approach. It is how learners of varying ability choose to empower and transform themselves by making wise decisions, setting goals, and using achievement-related strategies and mental processes to ensure learning. This definition creates a specific vision for intentional learning by exploring the combined effect of conative, cognitive, affective, and social processes on learning performance. The manner in which intentions mediate between causal beliefs, emotions, and learning performance guides this holistic interpretation. Based on a conception that embraces the transformative power of learning, intentional learners planfully and expertly direct themselves to acquire new knowledge, elaborate and construe meaning, and use intensive, persistent effort to achieve long-term goals. Such learners use strategic cognitive skills, such as practice, problem-solving, and progress assessment, to achieve challenging goals.

Intentional learning is how learners of varying ability choose to empower and transform themselves by making wise decisions, setting goals, and using achievement-related strategies and mental processes to ensure learning.

Figure 1 Definition of Intentional Learning

As individuals mature and experience learning, they gradually develop unique learning processes and capabilities and ultimately adjust intentions in relation to social and environmental factors. Over the years, as individuals manage their beliefs, processes, capabilities, and intentions, they receive reinforcement for their efforts. How they experience the achievement-oriented process results in causal beliefs about success or failure in learning. These causal beliefs have important implications for learning. Herein lays the significant contrast between learners: causal beliefs and intentions foster individual learning differences.

Table 2 displays a conceptual, multidimensional representation based on the proposed intentional learning theory. It presents four unique approaches or orientations to learning: intentional, performing, conforming, and resistant learning. Situational resistance appears as the border of the model to depict a situational, temporary state of resistance. This model shows learning as the way individuals, at any age with varying beliefs and levels of ability, elect (be motivated) to experience learning. It supports an individual's differences and unique, dedicated purpose to manage and use learning to resist, conform, perform, or transform.

INTENTIONAL LEARNING ORIENTATION

RESISTING LEARNER	CONFORMING LEARNER	PERFORMING LEARNER	INTENTIONAL LEARNER
◆ Use knowledge to resist Chronically resist or avoid learning (unskilled, apathetic or aggressively disobedient) Set intentional nonlearning goals Locus of control is internal *Resistance*	◆ Use knowledge to conform Accept and reproduce knowledge Compliant, semi-skilled learner Set goals to please or conform Locus of control is external *Conformance*	◆ Use knowledge to perform Select and apply knowledge Active, skilled learner Set & achieve short-term goals Locus of control is external *Performance*	◆ Use knowledge to transform Elaborate and give knowledge meaning Aggressive, expert learner Set & achieve short- & long-term goals Locus of control is internal *Transformance*
Situational Resistance			

Intentional Learners

"Intentional learners" take risks, use a skilled, agentive approach, and intensive, persistent effort to achieve long-term learning goals. Such learners place greater focus on achieving goals—using the task as a means to attain long-term, strategic goals—rather than simply accomplishing an isolated, short-term task or activity. Intentional learners use mental resources and direct processes that manage and intentionally manipulate learning in the transformative manner that they anticipate.

Generally, positive causal beliefs and subsequent anticipation will motivate intentional learners to synthesize past experiences and intrinsic, extrinsic, and situational factors in a meaningful way that helps monitor progress and achieve lofty standards; they achieve higher than normal standards through persistent, aggressive efforts. Using a problem-solving approach, intentional learners will select specific learning and feedback-feedforward processes that best meet their needs and the challenges they face; they do this against a background of self-efficacy, perceived capabilities, perceptions, and expectations. Intentional learners learn best in intentional learning environments that encourage positive anticipations, risk-taking experiences, transformative processes, and long-term accomplishments.

General Assumptions about Intentional Learning

A. **Intentional learners use a unique combination of mental processes, intentions, high achievement motivation, persistent effort, and skillful strategies to achieve learning.**

B. **Intentional learners manipulate, to varying degrees, learning processes, strategies and skills to achieve anticipated learning goals beyond the requirements of the given task.**

C. **Intentional learners choose and optimize learning opportunities and foster growth when they anticipate greater value or possibility for achievement that will extend or enhance their capacity to grow.**

D. **Intentional learners embrace learning when instruction allows them to follow beliefs, practice personal values, support intentions, and show commitment to achievement related goals.**

E. **Intentional learners positively anticipate instruction that supports mutually acceptable visions and strategies for achieving desired outcomes.**

F. **Intentional learning is an intentional achievement, not an automatic consequence acquired at birth.**

G. **Intentional learners like helping themselves and working hard to learn; success beget satisfaction. Continued satisfaction in learning ensures use of intentional learning strategies and processes.**

Figure 2 Definition of Intentional Learning

Other Types of Learner

In comparison, a "performing learner" is a skilled learner and systematically uses cognitive processes and self-regulated learning skills, such as goal setting, rehearsal, mnemonics, memorization, feedback-control processing, and problem-solving, to achieve established goals. In contrast to intentional learners, performing learners are task-oriented, take fewer risks with challenging goals, focus on shorter-term limits, and rely on external influences to

accomplish a task. Performing learners work to achieve goals but not necessarily use persistent or intensive effort to go beyond the limits of the established goal. For example, after acquiring new knowledge, performing learner may not explore related topics to elaborate and give meaning to the new knowledge. "Conforming learners" are typically more compliant and passively accept, store, and reproduce knowledge to accomplish external goals and given tasks. Confirming learners avoid risks and challenging goals, use minimum effort, blame achievement failure on lack of ability. Conforming learners do not understand how to give knowledge new meaning or use it to initiate change in themselves or the environment. In contrast to the other three learning approaches, "resistant learners" use efforts to avoid learning. These learners increasingly focus internal goals on resistance and defy the transformative power of learning.

Conclusions

Intentional learning is how an individual may choose, based on intentions and perceptions about ability, to perform to learn. Intentional learners look at what goes on in the mind, environment, and context of their anticipations, set their goals, sequence tasks, monitor progress, and use feedback to achieve desired goals. Governed by an intent to learn, they use skillful, strategic processes to achieve learning goals above the requirements of any given task. Intentional learners set high standards, work hard, and dedicate themselves to long-term goals of worthy accomplishments. They do so by using experience, knowledge, and feedback channeled through a problem-solving framework. These learners want to see and enjoy the results of their learning, see how their strategies and ideas worked, and evaluate their results according to their execution. Such learners use practice and feedback to improve regulation and use of learning strategic, processes, and skills. Intentional learners have learned to seek and enjoy the success of their learning continually. They have a lifelong stake in their learning and achieve a great satisfaction when they succeed. They rationalize failure into progress. This process continuously strengthens their commitment and capacity to grow and perpetuates learning.

The central thesis of this research is that the understanding of intentional learning theory can have significant implications for the educational process. Intentional learning appears to be a significant determinant of learning performance and can make critical contributions to the development of intentional learning programs and environments. This research also includes efforts to (1) examine specific intentional learning processes, such as goal setting, task sequencing, and progress monitoring, and (2) develop, implement, and evaluate intentional learning environments, such as a System for Intentional Learning and Progress Assessment (SILPA). These studies will identify ways educators can guide learners, at any age with varying ability, in managing mental resources and capabilities to improve learning performance. More importantly, students, parents, and educators can learn to understand, embrace, and practice the transformative power of learning.

The study of intentional learning is still evolving. By October, additional research studies should provide evidence from a factorial, semantic differential, discriminatory, component, and confirmatory analysis. This paper provides evidence for a unified validity conceptual framework and justification for the assessment and subsequent interpretations and serves as a standards for educational and psychological measurement (Messick, 1989). It presents empirical methodology or strategies used in the validation process for the intentional learning construct and instrumentation. It also guides the application of the rationales supporting continuing research.

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